

WHAT IS CLAIMED IS:

1. A soft transparent polyolefin resin sheet having a multilayered structure wherein at least one surface layer is made of a hard polypropylene type resin and at least one other layer is made of a soft resin, the polyolefin resin sheet having the following properties:
 - (a) a modulus of elasticity from 20 MPa to 1,000 MPa;
 - (b) an average length of a foreign substance that has a refractive index different from a non-crystalline resin composition occupying the most volume fraction being less than 10 μm , and the number of foreign substances in any section of the sheet being less than 500 foreign substances/ mm^2 ; and
 - (c) less than 0.2 μm of surface-roughness Ra of the at least one surface layer.
2. The soft transparent polyolefin resin sheet according to Claim 1, said multilayered structure having at least three layers including both the surface layers and an intermediate layer, said surface layers being composed of said hard polypropylene type resin, and said intermediate layer being composed of said soft transparent polyolefin resin.
3. The soft transparent polyolefin resin sheet according to Claim 1, wherein the modulus of elasticity under tension of the sheet is 50 to 800 MPa.
4. The soft transparent polyolefin resin sheet according to Claim 1, wherein said surface layer is made of a resin selected from a group consisting of: homo-polypropylene, ethylene-propylene random

copolymer (ethylene content ranging from 0.1 wt% to 10 wt%), and ethylene-butene-propylene random copolymer (ethylene and butene content ranging from 0.1 wt% to 10 wt%).

5. The soft transparent polyolefin resin sheet according to Claim 2, wherein said surface layer is made of a resin selected from homo-polypropylene, ethylene-propylene random copolymer (ethylene content ranging from 0.1 wt% to 10 wt%), and ethylene-butene-propylene random copolymer (ethylene and butene content ranging from 0.1 wt% to 10 wt%).

6. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin is a low-stereoregular polypropylene type resin having a ratio of mmmm (a value of PI) ranging from 50% to 90% in a pentad ratio measured by using ^{13}C -NMR with respect to stereoregularity of homo-polypropylene.

7. The soft transparent polyolefin resin sheet according to Claim 6, wherein a value of $\text{rrrr}/(1-\text{mmmm})$ of said low-stereoregular polypropylene type resin ranges from 15% to 50%.

8. The soft transparent polyolefin resin sheet according to Claim 6, wherein said low-stereoregular polypropylene type resin consists of a boiled heptane insoluble polypropylene type resin (from 50 wt% to 95 wt%) having the limiting viscosity ranging from $[\eta]0.5$ dl/g to $[\eta]9.0$ dl/g, and a boiled heptane soluble polypropylene type resin (from 5 wt% to 50 wt%) having the limiting viscosity of more than $[\eta]1.2$ dl/g.

9. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin is an ethylene-propylene random copolymer (ethylene content ranging from 5 wt% to 30 wt%).
10. The soft transparent polyolefin resin sheet according to Claim 9, wherein the proportion of ethylene-propylene random copolymer in a unit PPEP composed or continued four elements of ethylene (E) and propylene (P) has a racemic configuration for a continued part of PP that is extremely small.
11. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin is a non-crystalline butene-1-propylene copolymer.
12. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin is a compound of a non-crystalline butene-1-propylene copolymer and polypropylene.
13. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin is a propylene-ethylene-butene-1 copolymer.
14. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin-resin is a compound of a propylene-ethylene-butene-1 copolymer and polypropylene.

15. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin contains a reactor blending type ethylene-propylene copolymer elastomer.

16. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin contains a reactor blending type ethylene-propylene-butene-1 copolymer.

17. The soft transparent polyolefin resin sheet according to Claim 1, wherein said soft transparent polyolefin resin is selected from at least one of an ethylene monopolymer and an ethylene- α -olefin copolymer.

18. The soft transparent polyolefin resin sheet according to Claim 17, wherein said ethylene monopolymer is at least one selected from a high-pressure-produced low-density polyethylene and a low-pressure-produced low-density polyethylene.

19. The soft transparent polyolefin resin sheet according to Claim 17, wherein said ethylene- α -olefin copolymer is at least one selected from a group consisting of: Ziegler-Natta catalyst type linear low-density polyethylene, a metallocene catalyst type linear low-density polyethylene, and an ethylene-octene copolymer having long branching in a main chain polymerized by using constrained geometry catalyst technology.

20. The soft transparent polyolefin resin sheet according to Claim 1, wherein the soft transparent polyolefin resin is composed of a soft polypropylene type resin.
21. The soft transparent polyolefin resin sheet according to Claim 20, wherein 2 wt% to 30 wt% of hydrogenated styrene-butadiene rubber is mixed into said soft transparent polyolefin resin.
22. The soft transparent polyolefin resin sheet according to Claim 20, wherein 2 wt% to 30 wt% of an ethylene- α -olefin copolymer is mixed into said soft transparent polyolefin resin.
23. The soft transparent polyolefin resin sheet according to Claim 20, wherein 2 wt% to 30 wt% of an ethylene-octene copolymer is mixed into said soft transparent polyolefin resin.
24. The soft transparent polyolefin resin sheet according to Claim 1, the soft transparent polyolefin resin comprising:
a polypropylene type thermoplastic elastomer; and
an ethylene-vinyl acetate copolymer resin.
25. The soft transparent polyolefin resin sheet according to Claim 24, wherein the content of said ethylene-vinyl acetate copolymer resin ranges from 5 wt% to 30 wt%.